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ABSTRACT

The array of technological devices available for use in the reading program today is impressive. The innovations vary in form and complexity: radio, television, videotape recorder, computer, film loop, cassette, tape recorder, and microforms are but a few of the materials. There are many arguments which could be presented for and against the use of nonprint material in the reading program. However, instead of debating whether print will be superseded by other communication forms and in what ways other communication forms are more effective than print, educators need to explore the ways in which educational technology can make greater contributions to success in reading. Instructional media and the concept of educational technology are still in their infancy. Many devices and plans are presently available for use within the reading program; many devices and plans are in the developmental stages; others are just sparks in some creative imagination. The media do not determine success in reading--rather, it is the teacher's effective use of technological aids that determines success in reading. (WR)

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SESSION

PERSPECTIVES I: READING AND TECHNOLOGY

PART III: WEDNESDAY, AUGUST 14, 1430-1600

CONTRIBUTIONS OF TECHNOLOGY TO READING SUCCESS

The early years of the twentieth century witnessed the introduction of new pedagogic devices in education. The magic lantern and slides, the phonograph and cylinder records, the camera and photographs, duplicating equipment and the radio were viewed as supplementary aids to the basic media of instruction: the teacher and the book. (6) In the 1920's technological innovations directly related to reading in-

struction appeared. These machines were mainly of a tachistoscopic nature, designed to improve the reader's eye movements, and, consequently, the rate of silent reading. Today, the array of technological devices available for use in the reading programme is impressive. The innovations vary in form and complexity: radio, television, videotape recorder, computer, film loop, cassette, tape recorder and microforms are but a few of the materials. It is apparent, even from this abbreviated list, that technology is indeed very much a part of reading instruction and of education generally.

Despite the number and variety of technological devices available for use in the teaching of reading, there is some disagreement about the use of non-print materials to develop a process that requires responses to printed matter. The controversy has been heightened in recent years.

Publishers of reading series have increasingly added technological components such as filmstrips and tape recordings to their basic materials for reading instruction. The extent to which such supplementary materials are used and the effectiveness of these materials in improving children's reading performance are areas needing investigation.

Some writers predict the demise of the printed word. Marshall McLuhan, for example, maintains that literacy has outlived its usefulness. Electronic media is the stimulus which provokes our senses to active participation in the learning process. It is also projected that with more so-

phisticated and less expensive mechanical means of information storage and retrieval, an individual may no longer require the ability to read. However, at the present time we do not know whether printed forms of information will eventually disappear. Observation of the current proliferation of books, both hard and soft cover, magazines, newspapers and pamphlets would seem to indicate that the demise of print is not imminent.

It is quite evident that the school tends to perpetuate the use of print. Many educators indicate that children spend at least eighty percent of their instructional time involved with printed materials. This figure compares inversely with the amount of time children spend with electronic media outside of school.

In both advanced and developing countries, reading is often the basis of the educational system. It is a skill that is necessary to survival in the programme of studies. Furthermore, in many countries there are societal expectations that at a certain age children will enter school and learn how to read.

There are many arguments which could be presented for and against the use of non-print material in the reading programme. Perhaps, because print is an "old technology" (14) we find certain "familiar and comforting images" (9) in it. Being familiar with the conventions of print, we do not have to develop new patterns of behaviour to deal with it. Instead of

debating whether print will be superseded by other communication forms and in what ways other communication forms are more effective than print, we need to explore the ways in which educational technology can make greater contributions to success in reading.

The term 'educational technology' needs clarifying. In popular usage, the term is often equated with audio-visual media such as films, tape recordings, overhead projectors, and reading machines. Proponents of technology in education disagree with this limited definition. Instructional media is a more appropriate term for the aforementioned materials. Educational technology, on the other hand, embraces all the newer media used for instructional purposes as well as instructional modifications necessary to incorporate the media into the curricular framework. (2, 3, 6) In the view of these writers, educational technology provides a systematic way of approaching the teaching/learning situation through the application of experience and knowledge of resources and materials to the problems of education. Through the implementation of instructional media in the context of the total programme, a better arrangement of the learning situation should be achieved.

For administrators and teachers contemplating the inclusion of instructional media in the reading programme, there are a number of questions which should be considered:

1. What are the essential features of the present reading programme?

2. What are the main deficiencies in the present programme?
3. In what ways will the inclusion of instructional media help overcome the present programme deficiencies?
4. What kinds of instructional media materials are available? Can the media be classified according to (a) purposes in reading instruction; (b) methods of use; (c) kinds of pupils who would profit from such materials?
5. What changes in teacher and pupil behaviour will be required by the inclusion of instructional media?
6. What changes in the physical arrangements of classrooms will be required by the inclusion of instructional media?
7. In what ways has a more balanced reading programme resulted from the inclusion of non-print materials?

Such questions should serve as a guide for programme planners in working towards a 'better arrangement of the learning situation.'

The teacher is instrumental in effecting change within the reading programme, for the teacher controls the social setting into which educational technology and instructional media may be introduced. The extent to which benefits will be derived

from technology is greatly influenced by the social setting. (10)

How well are teachers prepared to cope with instructional media in their reading programmes? There are frequent references in the literature to the need for pre-service and in-service teacher training courses on the application of technology in the classroom. (13) In a survey conducted by the Canadian Teachers Federation in 1969 and 1970, an effort was made to determine trends towards teacher education in technology. While twenty-five of the thirty-five institutions surveyed offered courses in instructional media, the courses were not compulsory. It is apparent that in Canada many teachers are entering the classroom without any background in educational technology. (4) Considering this information along with the fact that many Canadian teachers have minimal training in reading methods, we may seriously question the extent to which instructional media will be effectively incorporated into the reading programme. (7)

Educational technology could also be used in teacher training courses in reading methods. Films, television productions or video-tape recordings could be developed to demonstrate the practical application of different theoretical approaches to reading. (1, 16)

Although teacher education institutions in Canada, do not appear to place much emphasis on preparation for the use of educational technology, this does not mean to imply that the Canadian schools are without instructional media. A 1967 sur-

vey indicated that most Canadian schools had a rather extensive stock of technological materials, including computers (used in large urban school systems for pupil records and library cataloguing), reading machines (tachistoscopes, controlled readers), language laboratories and the usual audio-visual materials. (8) In addition, schools have easy access to many materials which would accompany the hardware of instructional media. (15)

In a more general way technology has made many contributions to the teacher's professional development in reading instruction. Many of the complex research investigations completed in the last ten years could not have been done without the computer and various recording devices. As a result, our background of information related to the reading process, to children's language development, and to characteristics of the written form of the language has been greatly enhanced. The availability of research studies and professional papers on microforms has made it much easier for teachers to examine the professional literature. Presumably, opportunities to study the professional literature will result in improved reading instruction.

The contributions of technology within the context of the instructional programme may also be considered. Previous speakers in this section of the conference have focused on specific applications of media in the classroom. Television, film, radio, and visual aids have been considered. Many of the ideas

presented have served to draw our attention to new roles for print and non-print forms within the reading programme.

Earlier in this discussion it was mentioned that many publishers of reading series are including instructional media as supplements to the traditional reader and workbook. The availability of such a variety of materials provide the teacher with many opportunities to modify instruction to meet the needs of various pupils. A specific concept may be approached through print, pictures, filmstrips or tapes in some of the published programmes. What flexibility is offered a teacher in developing a more vital reading programme! Many other materials are available for use independently or in conjunction with series of readers. (12, 13, 15)

Television is another means which can facilitate progress in reading. It provides an effective way of influencing children's attitudes toward the learning task as well as making the task easier for them. Animations and filmed stories can provide a highly motivating situation for children who have encountered reading problems. (11)

However, it may be noted that the use of television in an instructional setting may require a reorganization of the child's previously acquired viewing habits. In the home environment television viewing may be part of an intimate, personal situation over which the child has some degree of control. In school, television viewing is naturally formalized

as a group activity which requires attentiveness and some degree of conformity. While the child may have to make some behavioural adjustments for television viewing in the school setting, the benefits gained from successful reading experiences cannot be overlooked or under-rated. Perhaps, television should permeate the schools in much the same way that reading does.

Although many researchers seem to be opposed to the use of reading machines, current research literature does not offer sufficient evidence to substantiate such a point of view. On the positive side, the motivational aspects of reading machines are usually considered of utmost significance, particularly in situations where teachers are working with pupils who have encountered difficulties in reading. On the other hand, reading machines featuring behaviourally designed programmes which require one right answer obtained by following one right route should be critically appraised. Not all facets of the reading process can be effectively developed through such procedures. (13)

Instructional media and the concept of educational technology are still in their infancy. Many devices and plans are presently available for use within the reading programme; many devices and plans are in the developmental stages; others are just sparks in some creative imagination. It is not the media that contributes to success in reading--it is the teacher's effective use of the technological aids that determines the success in reading.

REFERENCES

1. Affleck, Muriel. "Videotapes in pre-service education--do's and don't's," in Jane H. Catterson (ed.) Reading Education in Canada, 1970. Vancouver: Kellee Educational Publishing Co., 1972, 1-5.
2. APLET Yearbook of Educational and Instructional Technology 1972/73. London: Kogan Page Limited, 1973.
3. Apter, Michael J. The New Technology of Education. London: MacMillan, 1968.
4. Channon, Geraldine. Innovations in Teacher Education in Canada. Ottawa: Canadian Teachers' Federation, 1971.
5. George, Frank H. Science and the Crisis in Society. London: Wiley-Interscience, 1970.
6. Gillette, Margaret. Educational Technology--Toward Demystification. Scarborough: Prentice-Hall of Canada, Ltd., 1973.
7. Hooper, Richard. "Educational technology--strategy for success," Educational Television International, 4 (June, 1970), 128-133.
8. Lucow, W. H. "A survey of automated teaching and learning devices in Canadian schools," in Education and the New Technology (Canadian Council for Research in Education Symposium, 1967), 26-29.
9. McLuhan, Marshall and Quentin Fiore. War and Peace in the Global Village. Toronto: McGraw-Hill Book Company, 1968.
10. Mesthene, Emmanoul G. Technological Change: Its Impact on Man and Society. Cambridge: Harvard University Press, 1970.
11. Morris, Joyce M. "Television and reading," in John Merritt (ed.) Reading and the Curriculum (Proceedings Seventh Annual Study Conference, UKRA, Durham, 1970). London: Ward Lock Educational, 1971, 125-134.
12. Moyle, Donald and Louise M. Moyle. Modern Innovations in the Teaching of Reading. London: University of London Press, Ltd., 1971.

13. Palmatier, Robert A. "Machines in the Reading Program--
What Are Their Roles?" Paper presented at the International Reading Association Convention, Atlantic City, 1971. ERIC Accession No. ED 051 980.
14. Postman, Neil. "The Politics of Reading," in Sr. Rosemary Winkeljohann (ed.) The Politics of Reading: Point-Counterpoint. Newark: International Reading Association, 1973, 1-11.
15. Snow, Kathleen M. and Philomena Hauck. Canadian Materials for Schools. Toronto: McClelland and Stewart, 1970.
16. Westermarck, Tory; Kenneth Slade and Kenneth Ahrendt. "The development and use of film on the language experience approach to reading," in Jane H. Catterson (ed.) Reading Education in Canada, 1970. Vancouver: Kellee Educational Publishing Co., 1972, 6-10.